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VIA FACSIMILE

August 23, 1999

"Amendment of the claims under Article 19(1) (Rule 46)"
Re: International Application No. PCT/JP99/01006
Applicant: CENTRAL GLASS COMPANY, LIMITED
Agent: Patent Attorney SHIGA Fujiya
International Filing Date: 03 March 1999

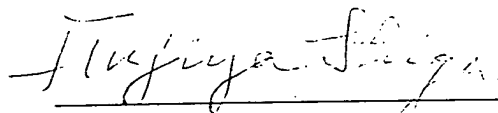
Dear Sir,

The applicant, who received the International Search Report relating to the above identified International Application transmitted on 01 July 1999, hereby files the amendment under Article 19(1) as in the attached sheets.

Further, the applicant hereby amends claims 1, 8, 9, 10 and 11.

The applicant also files as attached herewith a brief statement explaining the amendment and indicating any impact that amendment therein might have on the description and drawings.

Very truly yours,


SHIGA Fujiya

Attachment:

- | | | |
|-----|-------------------------------|----------|
| (1) | Amendment under Article 19(1) | 3 sheets |
| (2) | Brief Statement | 1 sheet |

BRIEF STATEMENT

The amendment under Article 19(1) is respectfully submitted.

5 It seems that EP 0 703 450 A1 discloses such a treatment that a product of fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether, from a reaction step is brought into contact with a basic aqueous solution thereby removing acid content and 1,1,1,3,3,3-hexafluoroisopropyl alcohol. However, in this treatment, the product
10 contains a high concentration of 1,1,1,3,3,3-hexafluoroisopropyl alcohol which may be not less than about 1 % by weight. It is to be noted that the product of fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether containing such a high concentration of 1,1,1,3,3,3-hexafluoroisopropyl alcohol cannot be so purified to such
15 a degree as to obtain fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether which substantially does not contain 1,1,1,3,3,3-hexafluoroisopropyl alcohol.

 According to the present invention, fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether containing less than about 1 %
20 by weight of at least 1,1,1,3,3,3-hexafluoroisopropyl alcohol is brought into contact with a basic aqueous solution, thereby making it possible to obtain fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether which substantially does not contain 1,1,1,3,3,3-hexafluoroisopropyl alcohol.

25 Thus, claims 1, 8, 9, 10 and 11 are amended to clearly recite the concentration of 1,1,1,3,3,3-hexafluoroisopropyl alcohol contained in the produced 1,1,1,3,3,3-hexafluoroisopropyl ether, and the effect obtained under the concentration of 1,1,1,3,3,3-hexafluoroisopropyl alcohol.

30

CLAIMS

1. A process for purifying fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether, comprising:
causing fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether
5 containing at least 1,1,1,3,3,3-hexafluoroisopropyl alcohol, to contact with a basic aqueous solution which contains a basic substance in an amount providing a chemical equivalent ratio of said basic substance to 1,1,1,3,3,3-hexafluoroisopropyl alcohol being within a range of not less than 1.
10
2. A process as claimed in Claim 1, wherein said chemical equivalent ratio is within a range of from 1 to 3.
3. A process as claimed in Claim 1, wherein the causing step
15 is carried out at a temperature ranging from 0 to 60 °C.
4. A process as claimed in Claim 1, wherein said basic substance is at least one selected from the group consisting of hydroxide, oxide and carbonate of metal.
20
5. A process as claimed in Claim 4, wherein said metal is at least one selected from the group consisting of alkali metal and alkaline-earth metal.
- 25 6. A process as claimed in Claim 5, wherein said basic substance is at least one selected from the group consisting of sodium hydroxide, sodium oxide, sodium carbonate, potassium hydroxide, potassium oxide, potassium carbonate, lithium hydroxide, lithium oxide, lithium carbonate, rubidium hydroxide, rubidium
30 oxide, rubidium carbonate, cesium hydroxide, magnesium hydroxide, calcium hydroxide, strontium hydroxide, and barium hydroxide.

7. A process as claimed in Claim 1, wherein said basic aqueous solution of said basic substance has a concentration ranging from 0.001 to 20 % by weight.

5 8. A process for purifying fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether, comprising:

providing fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether containing at least 1,1,1,3,3,3-hexafluoroisopropyl alcohol, and a basic aqueous solution which contains a basic substance in an
10 amount providing a chemical equivalent ratio of said basic substance to 1,1,1,3,3,3-hexafluoroisopropyl alcohol being within a range of not less than 1; and

causing said fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether containing 1,1,1,3,3,3-hexafluoroisopropyl alcohol, to contact
15 with said basic aqueous solution containing said basic substance.

9. A process for purifying fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether, comprising:

providing fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl
20 ether containing at least 1,1,1,3,3,3-hexafluoroisopropyl alcohol, and a basic aqueous solution which contains a basic substance in an amount providing a chemical equivalent ratio of the basic substance to 1,1,1,3,3,3-hexafluoroisopropyl alcohol being within a range of not less than 1;

25 forming a reaction system in which inorganic acid radical is substantially absent; and

causing said fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether containing 1,1,1,3,3,3-hexafluoroisopropyl alcohol, to contact
30 with said basic aqueous solution containing said basic substance.

10. A process for purifying fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether, comprising:

causing fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether containing at least 1,1,1,3,3,3-hexafluoroisopropyl alcohol, to contact with basic aqueous solution containing a basic substance, in a reaction system in which inorganic acid radical is substantially
5 absent.

11. A process for purifying fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether, comprising:
forming a reaction system in which inorganic acid radical is
10 substantially absent; and
causing fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl ether containing at least 1,1,1,3,3,3-hexafluoroisopropyl alcohol, to contact with a basic aqueous solution containing a basic substance, in said reaction system.

15

特許協力条約

発信人 日本国特許庁（受理官庁）

出願人代理人

KOBAYASHI HIROMICHI

あて名

〒104

C/O SHIGA PATENT OFF
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-KU, TOKYO JAPAN

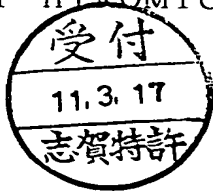
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国際出願番号及び 国際出願日の通知書

（法施行規則第22条、第23条）
〔PCT規則20.5(c)〕



殿

発送日（日．月．年）

16.03.99

出願人又は代理人

の書類記号

WO05-CG-99

重 要 な 通 知

国際出願番号

PCT/JP99/01006

国際出願日（日．月．年）

03.03.99

優先日（日．月．年）

03.03.98

出願人（氏名又は名称）

CENTRAL GLASS COMPANY, LIMITED

1. この国際出願は、上記の国際出願番号及び国際出願日が付与されたことを通知する。

記録原本は、16日03月99年に国際事務局に送付した。

注 意

- 国際出願番号は、特許協力条約を表示する「PCT」の文字、斜線、受理官庁を表示する2文字コード（日本の場合JP）、西暦年の最後から2桁の数字、斜線、及び5桁の数字からなっています。
- 国際出願日は、「特許協力条約に基づく国際出願に関する法律」第4条第1項の要件を満たした国際出願に付与されます。
- あて名等を変更したときは、速やかにあて名の変更届等を提出して下さい。
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- この通知に記載された出願人のあて名、氏名（名称）に誤りがあるときは申出により訂正します。
- 国際事務局は、受理官庁から記録原本を受領した場合には、出願人にその旨を速やかに通知（様式PCT/IB/301）する。記録原本を優先日から14箇月が満了しても受領していないときは、国際事務局は出願人にその旨を通知する。〔PCT規則22.1(c)〕

名称及びあて名

日本国特許庁（RO/JP）

郵便番号 100 TEL03-3592-1308

日本国東京都千代田区霞が関三丁目4番3号

様式PCT/RO/105（1998年7月）

権限のある職員

特 許 庁 長 官

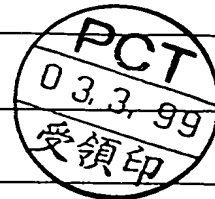
PCT REQUEST

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WO05-CG-99

Original (for SUBMISSION) - printed on 03.03.1999 10:46:13 AM

0	For receiving Office use only	
0-1	International Application No.	
0-2	International Filing Date	
0-3	Name of receiving Office and "PCT International Application"	
0-4 0-4-1	Form - PCT/RO/101 PCT Request Prepared using	PCT-EASY Version 2.82 (updated 01.01.1999)
0-5	Petition The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
0-6	Receiving Office (specified by the applicant)	Japanese Patent Office (RO/JP)
0-7	Applicant's or agent's file reference	WO05-CG-99
I	Title of Invention	PROCESS FOR PURIFYING FLUOROMETHYL 1,1,1,3,3,3-HEXAFLUOROISOPROPYL ETHER
II	Applicant	
II-1	This person is:	applicant only
II-2	Applicant for	all designated States except US
II-4	Name	CENTRAL GLASS COMPANY, LIMITED
II-5	Address:	5253, Oaza Okiube, Ube-shi, Yamaguchi 755-0001 Japan
II-6	State of nationality	JP
II-7	State of residence	JP
II-8	Telephone No.	0492-46-9184
II-9	Facsimile No.	0492-46-5368
III-1	Applicant and/or inventor	
III-1-1	This person is:	applicant and inventor
III-1-2	Applicant for	US only
III-1-4	Name (LAST, First)	KAWAI, Toshikazu
III-1-5	Address:	c/o Chemical Research Center of CENTRAL GLASS COMPANY, LIMITED 2805, Imafukunakadai, Kawagoe-shi, Saitama 350-1151 Japan
III-1-6	State of nationality	JP
III-1-7	State of residence	JP
III-1-8	Telephone No.	03-3545-2251
III-1-9	Facsimile No.	03-3545-5560



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III-2	Applicant and/or inventor	
III-2-1	This person is:	applicant and inventor
III-2-2	Applicant for	US only
III-2-4	Name (LAST, First)	KAWAMURA, Matsue
III-2-5	Address:	c/o Chemical Research Center of CENTRAL GLASS COMPANY, LIMITED 2805, Imafukunakadai, Kawagoe-shi, Saitama 350-1151 Japan
III-2-6	State of nationality	JP
III-2-7	State of residence	JP
IV-1	Agent or common representative; or address for correspondence The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	agent
IV-1-1	Name (LAST, First)	KOBAYASHI, Hiromichi
IV-1-2	Address:	c/o Shiga Patent Office Ekisaikai Bldg., 1-29, Akashi-cho, Chuo-ku, Tokyo 104-0044 Japan
IV-1-3	Telephone No.	03-3545-2251
IV-1-4	Facsimile No.	03-3545-5560
V	Designation of States	
V-1	Regional Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	EP: AT BE CH&LI CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE and any other State which is a Contracting State of the European Patent Convention and of the PCT
V-2	National Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	CA CN RU US
V-5	Precautionary Designation Statement In addition to the designations made under items V-1, V-2 and V-3, the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except any designation(s) of the State(s) indicated under item V-6 below. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit.	
V-6	Exclusion(s) from precautionary designations	NONE

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WO05-CG-99

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VI-1	Priority claim of earlier national application		
VI-1-1	Filing date	03 March 1998 (03.03.1998)	
VI-1-2	Number	Patent Application 10-051096	
VI-1-3	Country	JP	
VII-1	International Searching Authority Chosen	European Patent Office (EPO) (ISA/EP)	
VIII	Check list	number of sheets	electronic file(s) attached
VIII-1	Request	4	-
VIII-2	Description	13	-
VIII-3	Claims	3	-
VIII-4	Abstract	1	wo05-cg-99.txt
VIII-5	Drawings	0	-
VIII-7	TOTAL	21	
VIII-8	Accompanying items	paper document(s) attached	electronic file(s) attached
VIII-8	Fee calculation sheet	✓	-
VIII-16	PCT-EASY diskette	-	diskette
VIII-17	Other (specified):	document affixed by the revenue stamps which are equivalent to the amount of the payable fees	-
VIII-17	Other (specified):	evidence showing the remittance of the prescribed fees to the account of the WIPO-PCT GENEVA	-
VIII-17	Other (specified):	evidence showing the remittance of the search fees to the account of the EPO/JP-WIPO	-
VIII-18	Figure of the drawings which should accompany the abstract		
VIII-19	Language of filing of the international application	English	
IX-1	Signature of applicant or agent	<i>H. Kobayashi</i>	
IX-1-1	Name (LAST, First)	KOBAYASHI, Hiromichi	

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10-1	Date of actual receipt of the purported international application	
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	

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10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	
10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/EP
10-6	Transmittal of search copy delayed until search fee is paid	

FOR INTERNATIONAL BUREAU USE ONLY

11-1	Date of receipt of the record copy by the International Bureau	
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PCT (ANNEX - FEE CALCULATION SHEET)

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(This sheet is not part of and does not count as a sheet of the international application)

0	For receiving Office use only	
0-1	International Application No.	
0-2	Date stamp of the receiving Office	
0-4	Form - PCT/RO/101 (Annex) PCT Fee Calculation Sheet	
0-4-1	Prepared using	PCT-EASY Version 2.82 (updated 01.01.1999)
0-9	Applicant's or agent's file reference	WO05-CG-99
2	Applicant	CENTRAL GLASS COMPANY, LIMITED, et al.
12	Calculation of prescribed fees	fee amount/multiplier total amounts (JPY)
12-1	Transmittal fee T	⇒ 18,000
12-2	Search fee S	⇒ 149,000
12-3	International fee Basic fee (first 30 sheets) b1	62,800
12-4	Remaining sheets	0
12-5	Additional amount (X)	1,450
12-6	Total additional amount b2	0
12-7	b1 + b2 = B	62,800
12-8	Designation fees Number of designations contained in international application	5
12-9	Number of designation fees payable (maximum 10)	5
12-10	Amount of designation fee (X)	14,500
12-11	Total designation fees D	72,500
12-12	PCT-EASY fee reduction R	-19,300
12-13	Total International fee (B+D-R) I	⇒ 116,000
12-17	TOTAL FEES PAYABLE (T+S+I+P)	⇒ 283,000
12-19	Mode of payment	Transmittal fee: revenue stamps Search fee: bank draft International fee: bank draft Priority document fee:

VALIDATION LOG AND REMARKS

13-1-1	Applicant remarks Annotate	8623 Agent Hiromichi KOBAYASHI
13-2-2	Validation messages States	Green? More designations could be made. Please verify.

PCT (ANNEX - FEE CALCULATION SHEET)

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13-2-6	Validation messages Contents	Green? The international application contains no drawings. Please verify.
		Green? Priority 1. The priority document is not enclosed. (The applicant must furnish it within 16 months from the earliest priority date claimed)
13-2-9	Validation messages Annotate	Yellow! All indications that can be made on the Request form are specifically provided for by the software. Please confirm validity of additional indication.
13-2-10	Validation messages For receiving Office/International Bureau use only	Green? Verify electronic data for consistency against printed form.

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PCT-EASY INFORMATION SHEET

(For applicant use only, DO NOT submit this sheet with the international application)

VALIDATION LOG

	States
Green?	More designations could be made. Please verify.
	Contents
Green?	The international application contains no drawings. Please verify.
Green?	Priority 1. The priority document is not enclosed. (The applicant must furnish it within 16 months from the earliest priority date claimed)
	Annotate
Yellow!	All indications that can be made on the Request form are specifically provided for by the software. Please confirm validity of additional indication.
	For receiving Office/International Bureau use only
Green?	Verify electronic data for consistency against printed form.

PRIVATE REMARKS

Annotate	Hiromichi KOBAYASHI
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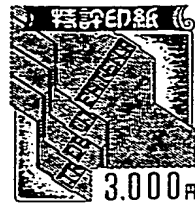
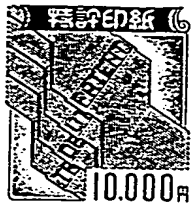
Before submitting the International Application, please carefully verify that:

- the information contained on printed Request form is correct;
- Box IX of the Request form has been signed;
- all elements of the international application as indicated in Box VIII of the Request form have been attached; and,
- the diskette containing the PCT-EASY zip file of the International Application has been enclosed and has been clearly labeled "PCT-EASY", with the applicant's or agent's file reference, and the first applicant's name.

ATTENTION

DO NOT modify any indications on the Request form printout. The attached PCT-EASY application has been locked. If an error or an omission is discovered at this time, you must copy the submitted application as a template and make the change or correction in a new application (using the submitted application as a template). You may create such a template by copying the submitted application from the "Stored Forms" folder to the "New PCT Forms" folder. Open the new (.OWO) file created in the "New PCT Forms" folder, correct the errors and proceed with the submission process again.

09/381372



TRANSMITTAL FEE ¥18,000.-

ご利用明細

本日はご来店いただきありがとうございます。

年月日	時刻	取扱店番	銀行番号支店番号	口座番号	印紙税申告納付につき税務署承認済
110301	13.36	0257			
お取引内容	お取引金額	お振込み	残高	お取扱金額	
お振込	¥116,000*		おつり	¥3,738*	
ご案内	<p>お受取人 東京三菱銀行 内幸町支店 普通 0473286 WIPO-PCT GENEVA 様 ご依頼人 シカ フジヤマ 様 03-3545-2251 税込手数料 262円を いただきました</p>				

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東京三菱銀行



BASIC FEE	¥62,800.-
DESIGNATION FEE	¥72,500.-
PCT-EASY FEE REDUCTION	¥19,300.-
TOTAL AMOUNT	¥116,000.-

ご利用明細

本日はご来店いただきありがとうございます。

年月日 110301	時刻 13.34	取扱店番 025211	銀行番号 支店番号	口座番号	印紙税申告納 付につき西可 税務署承認済
お取引内容 お振込	お取引金額 ¥149,000*	お取引い でない場合	残高 おつり	お取引金額 ¥738*	500円 100円 50円 10円 5円 1円
ご案内 お受取人 東京三菱銀行 内幸町支店 普通 0862711 EPO/JP-WIPO様 ご依頼人 シカ フシマ様 03-3545-2251 税込手数料 262円を いただきました					

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